Title:
Survey Says?...How Can Natural Language Processing Help Us Understand Open Survey Responses?

Abstract:
Survey data typically consist of both quantitative data and "free text" comments (qualitative data). Effectively analyzing and synthesizing comment responses requires a great deal of effort and is rarely comprehensive, particularly in large scale surveys. Student Affairs, Institutional Research, and Northwestern IT are collaborating to evaluate how Natural Language Processing (NLP) techniques and keyword visualization may help the University to more thoroughly glean insights from open-ended survey comments. These methods include Topic Modeling, Named Entity Recognition, Keyword Extraction and Sentiment Analysis. Major cloud service vendors have made these services more readily available in recent years which has resulted in growth in computer-assisted text evaluation across all business sectors. But will it work at Northwestern? This group has been analyzing University data to explore the accuracy, usefulness and flexibility of these tools. The presentation is intended for any administrator who relies on unstructured text. It will include an overview of our project, the NLP services used, visualized examples of analysis results, and discussion of implications and possible uses.

Learning Outcomes:

1. Discuss the data types best suited for Natural Language Processing (NLP) as well as the subsequent type of data such an analysis yields.
2. Explore the techniques for properly leveraging a NLP analysis, including examples of using data visualization in order to convert data analyses into actionable information.
3. Identify the resources available at Northwestern to perform such an analysis within your program or department.